CS348 Final Project Indexes Report

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Index 1: Clustered B-Tree on athlete.athlete\_id

* Updating and deleting athletes based on athlete\_id
  + Helps because it is a selection query on a B-Tree

Index 2: Unclustered B-Tree on athlete.coach\_id

* Report 1, when joining tables on coach.coach\_id = athlete.coach\_id
  + Helps because it will help us find the specific coach\_id faster, selection query

Index 3: Clustered B-Tree on coach.coach\_id

1. Joining athlete and coach on a.coach\_id = c.coach\_id
   1. Selection query, helps especially because c.coach\_id is smaller
2. Selecting the max of coach.coach\_id to get a unique ID for a new coach
   1. Go all the way to the right of the B-Tree
3. Updating and deleting coach based on coach\_id
   1. Selection query, helps us find specific coach faster

Index 4: Clustered B-Tree in workout table on (athlete\_id, workout\_id)

1. Selecting workouts based on athlete\_id
   1. Go to the correct athlete\_id and select all the workouts
2. Deleting workouts based on athelete\_id and workout\_id
   1. Selective query, go to the correct leaf node
3. Report 1, when joining tables on athlete.athlete\_id = workout.athlete\_id
   1. For each athlete\_id, go to that athlete\_id in the index and join
4. Report 2, The same join as in report 1

NOTE --- you can find the code for the reports in the athlete\_db.sql file in the repo